

Claims

1. Method for estimating the position of a subscriber station (MS) of a radio communication system, in which
 - a receive station (BS1) receives reports (B1, B2, ..., B10) from the subscriber station (MS), said reports containing information relating to the signal strength of a base signal (S1, S2, S3, S4) of at least one transmitting station (BS1, BS2, BS3, BS4) in the locality of the subscriber station (MS),
 - the reports (B1, B2, ..., B10) are stored in a memory (SP) of a network device (BS1) of the radio communication system and
 - a position determining unit (SMLC) takes into account at least two reports (B1, B2, ..., B10) stored prior to the request (AUF) for position estimation, in order to estimate the position of the subscriber station (MS).
2. Method according to claim 1, in which the receive station is used as the network device.
3. Method according to one of the preceding claims, in which the reports (B1, B2, ..., B10) during an active connection are received and/or stored regularly at specific time intervals in an idle mode of the subscriber station (MS).
4. Method according to one of the preceding claims, in which a maximum first number of reports (B1, B2, ..., B10) is stored in the memory (SP).
5. Method according to one of the preceding claims, in which the position determining unit (SMLC) requests a second number of reports (B1, B2, ..., B10) from the network device (BS1).
6. Method according to claim 5, in which the network device (BS1)

- at the point in time (t_1) of the request has stored a smaller number of reports (B_1, B_2, B_3, B_4) than the second number of reports (B_1, B_2, \dots, B_{10}),
- stores additional reports ($B_5, \dots, B_{10}; B_5, \dots, B_8$) until the second number of reports (B_1, B_2, \dots, B_{10}) has been stored or until a maximum period of time (t_{\max}) has expired and
- sends either prior to the expiry of the maximum period of time (t_{\max}) the second number of reports (B_1, B_2, \dots, B_{10}) or after the expiry of the maximum period of time (t_{\max}), the number of reports (B_1, B_2, \dots, B_8) stored up to that time to the position determining unit (SMLC), even if the number of stored reports (B_1, B_2, \dots, B_8) remains smaller than the second number of reports (B_1, B_2, \dots, B_{10}).

7. Method according to one of the preceding claims, in which the position determining unit (SMLC), carries out a position estimation by comparing the signal strengths which can be taken from the reports (B_1, B_2, \dots, B_{10}) with a signal strength database.

8. Method according to one of the preceding claims, in which the transmitting power is in addition given in the reports (B_1, B_2, \dots, B_{10}) by means of which at least one transmitting station (BS1) has sent the receive signal (S1) in each case.

9. Method according to one of the preceding claims, in which the reports (B_1, B_2, \dots, B_{10}) are in each case supplemented by the transmitting power of the subscriber station (MS) and the corresponding receive power at the receiver station (BS1) receiving the reports (B_1, B_2, \dots, B_{10}) in each case.

10. Network device (BS1) for a radio communication system,

- with a memory (SP) for storing the reports (B_1, B_2, \dots, B_{10}), which a receiver station (BS1) has received from a

subscriber station (MS), in which the reports (B1, B2, ..., B10) in each case contain information relating to the signal strength of a receive signal (S1, S2, S3, S4) of at least one transmitting station (BS1, BS2, BS3, BS4) in the locality of the subscriber station (MS).

- with means (SE) for the transmission of at least two reports (B1, B2, ..., B10) stored prior to the request (AUF) for position estimation, to a position determining unit (SMLC), in which the position determining unit (SMLC) takes into account at least two stored reports (B1, B2, ..., B10) in order to estimate the position of the subscriber station (MS).